

February 2008

# MILITARY READINESS

## Navy Is Making Progress Implementing Its Fleet Response Plan, but Has Not Fully Developed Goals, Measures, and Resource Needs



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Highlights of [GAO-08-264](#), a report to congressional committees

## Why GAO Did This Study

The Navy initiated its Fleet Response Plan (FRP) in March 2003 as a critical enabler to help meet the new demands of the twenty-first century security environment. FRP represents a major change in the way the Navy manages its forces, and is intended to more rapidly prepare and then sustain readiness in ships and squadrons. To achieve the desired capabilities under FRP, the Navy has altered its training, maintenance, and manning practices. The Navy expects this new readiness approach will enable its forces to provide presence and engagement in forward areas, as well as surge a greater number of ships on short notice. The Navy intends to achieve this goal without increasing its operations and maintenance budget of about \$40 billion for each of the next 5 years. However, GAO previously reported that the Navy had not fully incorporated a sound management approach to guide and assess implementation of FRP. As a result, GAO was asked to examine the extent to which the Navy has (1) made progress in implementing a sound management approach for FRP and (2) evaluated the long-term risks and tradeoffs of FRP-related changes.

## What GAO Recommends

GAO recommends that the Navy take actions to fully develop implementation goals, performance measures, and links to resources for FRP and to assess the risks to its ability to meet these goals under changing conditions. The Navy generally concurred with the recommendations.

To view the full product, including the scope and methodology, click on [GAO-08-264](#). For more information, contact Janet St. Laurent at (202) 512-4402 or [stlaurentj@gao.gov](mailto:stlaurentj@gao.gov).

## MILITARY READINESS

### Navy Is Making Progress Implementing Its Fleet Response Plan, but Has Not Fully Developed Goals, Measures, and Resource Needs

## What GAO Found

The Navy has taken several positive steps toward implementing a sound management approach for FRP, but has not developed implementation goals, fully developed performance measures, or comprehensively assessed and identified the resources required to achieve FRP goals. GAO's prior work has shown that key elements of a sound management approach include: defining clear missions and desired outcomes, establishing implementation goals, measuring performance, and aligning activities with resources. The Navy has made progress in implementing FRP since GAO's prior reports. For example, it has established a goal of having three carrier strike groups deployed, three ready to deploy within 30 days of being ordered to do so, and one more within 90 days (referred to as 3+3+1). The Navy also has established a framework to set implementation goals for all forces, established some performance measures that are linked to the FRP phases, and begun efforts to identify needed resources. However, the Navy has not yet established a specific implementation goal for expeditionary strike groups and other forces. In addition, the Navy has not fully developed performance measures to enable it to assess whether carrier strike groups have achieved adequate readiness levels to deploy in support of the 3+3+1 goal. Moreover, the Navy has not fully identified the resources required to achieve FRP goals. Until the Navy's management approach fully incorporates the key elements, the Navy may not be able to measure how well FRP is achieving its goals or develop budget requests based on the resources needed to achieve expected readiness levels.

The Navy has not fully considered the long-term risks and tradeoffs associated with the changes made as FRP has been implemented, such as carrier operational and maintenance cycles and force structure. The Navy has extended the intervals between carrier dry-dock maintenance periods from 6 years to 8 years and begun a test program that will extend some carrier dry-dock intervals to as much as 12 years, and it has lengthened operational cycles for carriers and their airwings to 32 months. GAO previously advocated that the Department of Defense adopt a risk management approach to aid in its decision making that includes assessing the risks of various courses of action. However, the Navy has not fully considered the long-term risks and tradeoffs of these recent changes because it has not performed a comprehensive assessment of how the changes, taken as a whole, might affect its ability to meet FRP goals and perform its missions. In addition, while the Navy has developed force structure plans that include two upcoming periods when the number of available aircraft carriers temporarily drops from 11 to 10, the plans included optimistic assumptions about the length of the gaps and the availability of existing carriers and did not fully analyze how the Navy would continue to meet FRP goals with fewer carriers. Until the Navy develops plans that use realistic assumptions and accurately identify the levels of risk the Navy is willing to accept during these gap periods, senior Navy leadership may not have the information it needs to make informed tradeoff decisions.

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United States Government Accountability Office  
Washington, DC 20548

February 1, 2008

## Congressional Committees

The twenty-first century security environment has created new demands for Navy forces, particularly with continued operations in support of the Global War on Terrorism. One initiative that the Navy is continuing to implement and mature to help meet these demands is its Fleet Response Plan (FRP). In March 2003, the Chief of Naval Operations initiated FRP to more rapidly prepare and then sustain readiness in ships and squadrons. Fleet Forces Command, the Navy command that holds principal responsibility for managing fleet personnel, training, requirements, maintenance, and operations, began to implement FRP in May 2003. To achieve the desired capabilities under FRP, the Navy has altered prior training, maintenance, and manning practices. The Navy expects this new readiness approach will enable its forces to provide not only presence and engagement in forward areas, but also surge a greater number of ships on short notice. The Navy's operations and maintenance budget is projected to remain at about \$40 billion in constant dollars over the next 5 years.

The Fleet Response Plan modifies the Navy's pre-2001 deployment pattern, replacing 6-month routine deployments with more flexible deployment options intended to enable the quick response of naval forces to crises, conflicts, or homeland defense needs. FRP set specific requirements for carrier strike groups, which typically include an aircraft carrier with an airwing, two destroyers, a frigate, cruiser, and support ship, and possibly, depending on the mission, a submarine. In June 2007, the Navy began extending FRP to expeditionary strike groups, which may include amphibious ships with a Marine Expeditionary Unit, aircraft, and landing craft; surface combatants such as a cruiser, a destroyer, and a frigate; and possibly, depending on the mission, a submarine and a land-based maritime patrol aircraft.

We have previously reported on the Navy's implementation of FRP.<sup>1</sup> In November 2005, we reported that while FRP represents a major change in

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<sup>1</sup>See GAO, *Military Readiness: Navy's Fleet Response Plan Would Benefit from a Comprehensive Management Approach and Rigorous Testing*, [GAO-06-84](#) (Washington, D.C.: Nov. 22, 2005); and *Defense Logistics: GAO's Observations on Maintenance Aspects of the Navy's Fleet Response Plan*, [GAO-04-724R](#) (Washington, D.C.: June 18, 2004).

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the way the Navy manages its forces, it had not fully incorporated a sound management approach needed to guide and assess implementation. Moreover, the Navy had not fully tested and evaluated FRP or developed lessons learned to identify the effectiveness of its implementation. In 2005, we recommended that the Navy develop a comprehensive management plan with goals and performance measures to facilitate implementation of FRP and that it develop a comprehensive testing and evaluation plan to help determine whether FRP has been successful. The Department of Defense (DOD) generally agreed with our recommendations, citing several actions it had underway or planned. In 2004 we examined the maintenance impacts of FRP, and we observed that FRP did not shorten aircraft carrier maintenance intervals and that the impact of FRP on the Navy's maintenance budget was unknown.

The John Warner National Defense Authorization Act for Fiscal Year 2007 required us to report on a variety of issues pertaining to FRP management, readiness, and program expansion.<sup>2</sup> These issues included: the Navy's management approaches to implementing FRP; the adequacy of Navy directives and guidance with respect to maintenance and training requirements and procedures; the adequacy of the Navy's evaluation criteria for the plan; the Navy's progress in identifying the amount of funding required to effectively implement the operations and maintenance requirements of the plan and the effect of providing less funding the identified amount; Navy data on aircraft carriers, destroyers, and cruisers that participated in the plan with respect to readiness, response time, and availability for routine or unforeseen deployments; and any recommendations pertaining to expanding the plan to include expeditionary strike groups.

In April 2007, we briefed your offices on our preliminary observations. This report updates the information provided in the briefing and provides further detail based on the work we have completed since that time. Specifically, our objectives for this report were to assess the extent to which the Navy has (1) made progress in implementing a sound management approach for FRP, and (2) evaluated the long-term risks and tradeoffs of FRP-related changes.

To assess the Navy's progress in developing a sound management approach, we reviewed and analyzed guidance and instructions on

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<sup>2</sup>Pub. L. No. 109-364, § 341 (2006).

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manning, maintenance, and training; and key studies, messages, and planning documents and compared these to best practices for managing and implementing major efforts identified in our prior reports. We also interviewed officials in the offices of the Chief of Naval Operations and the Chairman of the Joint Chiefs of Staff; Fleet Forces Command and Pacific Fleet; Naval Air and Sea Systems Commands; and Marine Corps Forces Command to obtain information about initiatives that the Navy has undertaken. To assess the extent to which the Navy has evaluated the long-term risks and tradeoffs of FRP-related changes, we analyzed historical and long-range carrier maintenance schedules, analyzed the Navy's plans for meeting FRP goals during periods when only 10 aircraft carriers are available, and interviewed Navy readiness officials in the offices of the Chief of Naval Operations and Fleet Forces Command. We addressed both of these objectives for both carrier and expeditionary strike groups. We conducted our review from November 2006 through October 2007 in accordance with generally accepted government auditing standards. The scope and methodology used in our review are described in further detail in appendix I.

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## Results in Brief

The Navy has taken several positive steps toward implementing a sound management approach for FRP, but has not developed implementation goals, fully developed performance measures, or comprehensively assessed and identified the resources required to achieve FRP goals. Our prior work has shown that key elements of a sound management approach include defining clear missions and desired outcomes, establishing implementation goals, measuring performance, and aligning activities with resources.<sup>3</sup> Since our prior reports, the Navy has made progress in implementing FRP by issuing two instructions that describe the FRP mission, define the four FRP phases, and establish responsibility for oversight and execution of the plan. In addition, the Navy has established a goal of having three carrier strike groups deployed, three ready to deploy within 30 days of being ordered to do so, and one more within 90 days (referred to as 3+3+1). The Navy has also established a framework to set implementation goals for all forces, established some performance measures that are linked to the FRP phases, and has begun efforts to identify needed resources. However, the Navy has not yet fully developed a sound management approach to FRP because the Navy still considers

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<sup>3</sup>See GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, [GAO-03-669](#) (Washington, D.C.: July 2003).

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FRP an evolving construct and is continuing to work on each element. Specifically, the Navy has not yet established a specific implementation goal for expeditionary strike groups and other forces. Moreover, the Navy has not fully developed performance measures that enable it to assess whether carrier strike groups have achieved adequate readiness levels to deploy in support of the 3+3+1 goal. Existing performance measures also lack some details about acceptable levels of performance and scope. In addition, the Navy has not fully identified the resources required to achieve FRP goals. While the Navy has sponsored several studies to identify FRP costs, these studies used assumptions that are now outdated, such as a 12-carrier fleet, and did not link resources to readiness requirements. The Navy has recently established a board to identify training requirements and costs by FRP phase, and a task force to link operation and maintenance costs to FRP goals for a specific readiness level; however, it is not clear when these efforts will be complete or whether the results will be used to develop long-term guidance. Until the Navy's management approach fully incorporates all of the key elements, the Navy may not be able to measure how well FRP is achieving its goals or develop budget requests based on the resources needed to achieve expected readiness levels. We are recommending that the Navy establish implementation goals for the application of FRP to other forces; establish required overall readiness levels for each FRP phase; develop additional performance measures; and fully develop its ability to identify how resources should be linked to FRP phases, goals, and readiness levels.

The Navy has not fully considered the long-term risks and tradeoffs associated with the changes made as FRP has been implemented, such as carrier operational and maintenance cycles and force structure. The Navy has extended the intervals between carrier dry-dock maintenance periods from 6 years to 8 years and begun a test program that will extend some carrier dry-dock intervals to as much as 12 years, and it has lengthened operational cycles for carriers and their airwings to 32 months. We have previously advocated that DOD adopt a comprehensive risk management approach to aid in its decision making that includes, among other things, assessing the risks of various courses of action for both near- and long-term challenges. Prior to making changes to its maintenance cycle in the past, the Navy has conducted assessments of the potential effects of the changes. However, the Navy has not fully considered the long-term risks and tradeoffs of these recent changes because it has not performed a comprehensive assessment of how the changes, taken as a whole, might affect its ability to meet FRP goals and perform its missions. Without assessing the short- and long-term risks and tradeoffs associated with the changes in maintenance and operational cycles, it will be difficult for the



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Navy to determine the extent to which these changes could affect its ability to meet FRP goals and perform its full range of missions. In addition, while the Navy has developed force structure plans that include two upcoming periods when the number of available<sup>4</sup> aircraft carriers temporarily drops from 11 to 10, the plans included optimistic assumptions about the length of the gaps and the availability of existing carriers and did not fully analyze how the Navy would continue to meet FRP goals with fewer carriers. Until the Navy develops plans that use realistic assumptions and accurately identify the levels of risk the Navy is willing to accept during these gap periods, senior Navy leadership may not have the information it needs to make informed tradeoff decisions. To improve the Navy's ability to weigh the tradeoffs associated with meeting FRP goals, we recommend that the Navy perform a risk assessment that considers the effects of changes in carrier strike group operational and maintenance cycles under a range of force structure assumptions, and that identifies strategies to mitigate potential risks. Such a risk assessment should integrate plans to meet FRP goals during two upcoming periods when the number of available aircraft carriers temporarily drops from 11 to 10.

In comments on a draft of this report, DOD agreed with our recommendation to identify how resources should be linked to the Fleet Response Plan phases, goals, and readiness levels and publish appropriate guidance, and partially agreed with our other recommendations. However, the department did not identify what, if any, specific actions it would take beyond those it has already begun and which we evaluated as part of our review. For example, in response to our recommendation that the Navy perform a risk assessment that considers the effects of changes on carrier strike group operational and maintenance cycles under a range of force structure assumptions, DOD stated no further direction from the Secretary of Defense was needed but the Navy would continue to update its plans based on current risk assessments. In light of the possible impact on operations and potential financial impacts, we continue to believe that the Navy should initiate an integrated risk assessment.

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## Background

Prior to the September 11, 2001, terrorist attacks, only those Navy ships and air squadrons at peak readiness were deployed overseas, usually for 6

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<sup>4</sup>For purposes of this review, we considered a new-construction carrier to be available when it is ready to deploy.

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months at a time. Most of the Navy's remaining units were not available because they were in the early stages of their maintenance or training cycles, or because the Navy did not have good visibility of the readiness of these units. This prompted the Chief of Naval Operations in March 2003 to task the Commander of Fleet Forces Command to develop the FRP concept to enhance the Navy's surge capability. The Chief of Naval Operations approved the concept and directed the Commander of Fleet Forces Command to be responsible and accountable for effectively implementing the plan. The Commander of Fleet Forces Command is responsible for overall coordination, establishment, and implementation of integrated requirements and policies for manning, equipping, and training both Atlantic and Pacific fleet units<sup>5</sup> throughout the training cycle and is responsible for articulating all fleet warfighting and readiness requirements to the Chief of Naval Operations.

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## Composition of Carrier and Expeditionary Strike Groups

Carrier strike groups are typically centered around an aircraft carrier and its airwing, and also include a guided missile cruiser; two guided missile destroyers; a frigate; an attack submarine; and one or more supply ships with ammunition, fuel, and supplies (such as food and spare parts). The Navy currently has 11 aircraft carriers in service, with two additional carriers under construction. (The carriers are listed in app. III.) Generally, three carrier strike groups are deployed at any given time. The three deployed carriers include the USS *Kitty Hawk*, which is home ported in Japan and is counted as being continuously deployed. This carrier provides most of the U.S. naval presence in the western Pacific Ocean region and some in the Indian Ocean/Arabian Sea region. Carriers originating from the eastern and western United States have traditionally provided presence in the Mediterranean Sea and Indian Ocean/Arabian Sea regions, respectively. There are also 10 carrier airwings, one of which accompanies each deployed carrier. While the composition of each airwing can be tailored to the carrier's specific mission, each airwing typically includes a helicopter squadron as well as squadrons of aircraft for attack (composed of aircraft such as the F/A-18), electronic warfare (composed of aircraft such as the EA-6B), and reconnaissance (composed of aircraft such as the E-2C) missions. The Navy cites a variety of roles in which carrier strike groups may be employed, for example they (1) are deployed worldwide in support of U.S. interests and commitments; (2) respond to global crises from peacetime to full-scale war; (3) can operate

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<sup>5</sup>Units include ships, submarines, and aircraft.

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as the cornerstone of joint/allied maritime expeditionary forces in times of crisis; and (4) can operate and support aircraft attacks on enemies, protect friendly forces, and engage in sustained independent operations of war.

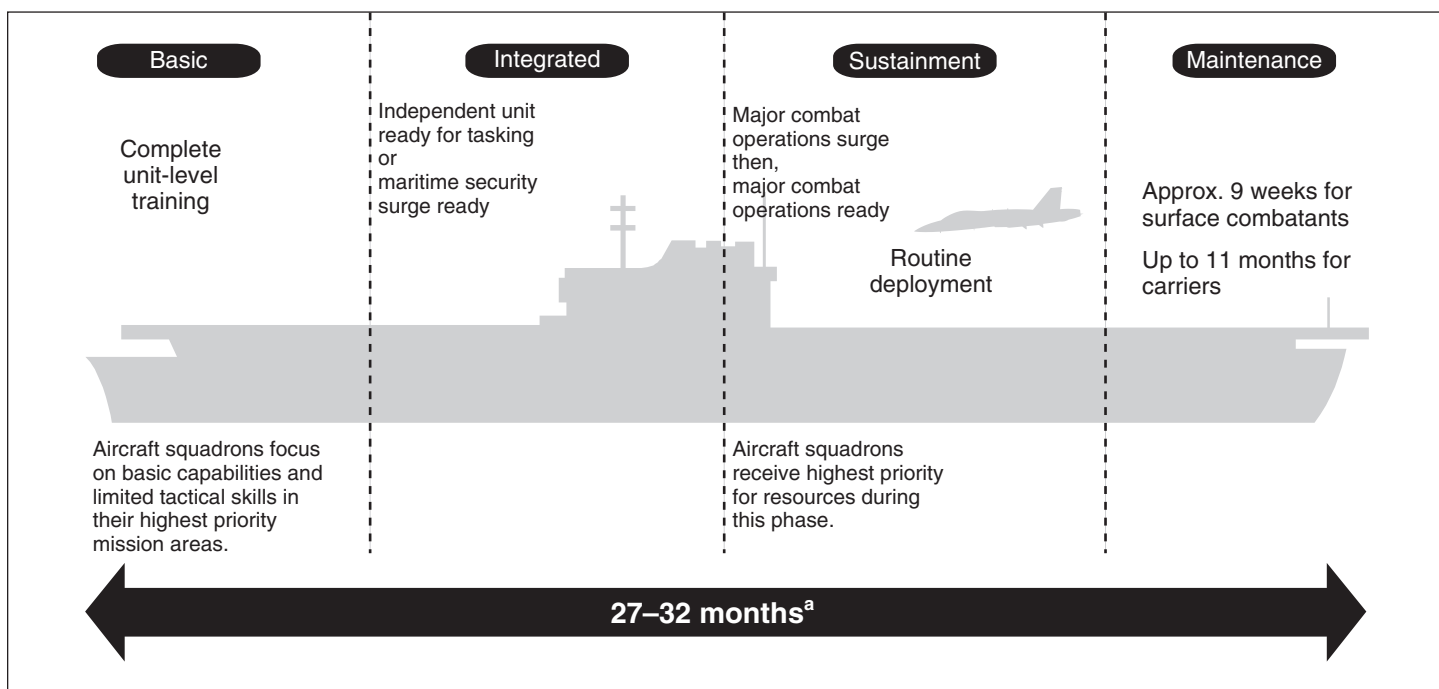
Expeditionary strike groups are typically centered on amphibious ships with a Marine Corps Marine Expeditionary Unit, aircraft, and landing craft. Each expeditionary strike group notionally includes one amphibious assault ship, one amphibious transport dock ship, and one dock landing ship. These amphibious ships together can embark a Marine Expeditionary Unit consisting of about 2,200 Marines, their aircraft, their landing craft, their combat equipment, and about 15 days worth of supplies. Like a carrier strike group, the expeditionary strike group may also include several surface combatants such as a cruiser, destroyer, and frigate; an attack submarine; and one or more P-3 long-range, land-based, maritime patrol aircraft. Expeditionary strike groups are designed to be independently deployable, strike-capable naval formations, but they can also operate in conjunction with carrier strike groups to form larger naval task forces. Generally, two or three expeditionary strike groups are forward-deployed at any given time.

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## FRP Cycle

FRP represents a change in the way the Navy manages its forces. The plan changes the manner in which the Navy maintains, trains, mans, and deploys its ships to allow a greater number of ships to surge on short notice while at the same time meeting forward- presence requirements. Four phases within the FRP cycle serve as the framework to more rapidly prepare and sustain the readiness of ships, aircraft, and personnel. As depicted in figure 1, the four FRP phases are (1) basic, or unit-level training; (2) integrated training; (3) sustainment (which may include one or more extended periods of deployment); and (4) maintenance.

**Figure 1: FRP Phases**



Sources: GAO analysis of U.S. Navy data; Art Explosion (clipart).

<sup>a</sup>The length of the FRP cycle varies by type of ship or aircraft.

At the end of the basic phase, a unit is characterized as an “independent unit ready for tasking” and may be assigned independent operations in support of homeland security, counternarcotics missions, or assigned to provide disaster relief or humanitarian assistance. As the training progresses, the capabilities of the units increase accordingly as do the roles and missions assigned. Once the basic phase is completed and the integrated phase begins, training can be tailored to meet a combatant commander’s request for a specific capability, such as to support antipiracy operations, and the unit is characterized as “maritime security surge” capable. Upon completion of the integrated phase, a unit begins the sustainment phase and is characterized as “major combat operations surge” capable, meaning the unit is ready for operational employment, but is not necessarily able to lead combat force operations. Once a unit is certified through advanced integrated training and is fully capable of conducting all forward-deployed operations, it attains the status of “major combat operations ready.” Routine deployments occur during the sustainment phase. Finally, ships spend time in maintenance phase, when

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major shipyard or depot-level repairs, upgrades, and modernization occur. The Fleet Forces Command and Pacific Fleet commanders have delegated responsibility to their subordinate force commanders (such as air, submarine, and surface) for overseeing the FRP's basic phase; and they have delegated their geographical fleet commanders (such as the Seventh Fleet, which operates in the Western Pacific) responsibility for overseeing the integrated and sustainment phases.

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## The Navy Has Taken Several Positive Steps, but Has Not Fully Developed Goals, Measures, and Resource Needs

The Navy has taken several positive steps toward implementing a sound management approach for FRP, but has not fully developed such an approach because the Navy's implementation of FRP is still evolving. The Navy's implementation of FRP has included some key elements of a sound management approach, such as defining clear missions and desired outcomes, developing some performance measures, and beginning to identify needed resources. However, the Navy has not fully incorporated certain key elements, such as fully developing implementation goals or performance measures and aligning activities with resources.

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## The Navy Has Taken Several Positive Steps to Implement a Sound Management Approach for FRP

The Navy has taken several positive steps toward implementing a sound management approach for FRP since our prior reports. Our prior work has shown that key elements of a sound management approach include defining clear missions and desired outcomes, establishing implementation goals, measuring performance, and aligning activities with resources.<sup>6</sup> The Navy's implementation of FRP has included some of these elements. For example, the Navy has issued two FRP instructions, one in August 2006 and another in August 2007.<sup>7</sup> The August 2007 instruction defined the FRP mission as providing ready Navy forces to meet combatant commanders' requests for forces in support of the nation's maritime security. These forces consist of forward operating and U.S.-based assets that may rotationally deploy or surge. Both instructions also defined the four FRP phases, defined notional lengths for each phase, and established responsibility for oversight and execution of the plan with

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<sup>6</sup>See, GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, [GAO-03-669](#) (Washington, D.C.: July 2, 2003) and *Executive Guide: Effectively Implementing the Government Performance and Results Act*, [GAO/GGD-96-118](#) (Washington, D.C.: June 1996).

<sup>7</sup>Office of the Chief of Naval Operations, OPNAV Instruction 3000.15, *Fleet Response Plan (FRP)* (Aug. 31, 2006); Commander, Fleet Forces Command and Commander, Pacific Fleet, Instruction 3000.15, *Fleet Response Plan* (Aug. 21, 2007).

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Fleet Forces and Pacific Fleet commanders and their subordinate force and geographic fleet commanders.

The Navy has also updated instructions in the areas of personnel, maintenance, and training to reflect desired outcomes under FRP. For example, in January 2007, the Navy revised its personnel instruction that provided guidelines on personnel deployment length under FRP.<sup>8</sup> The new instruction sets limits on the length of deployments, dwell times between deployments, and requirements for time spent in home port. The Chief of Naval Operations must grant a waiver if those limits are exceeded. In the absence of a waiver, deployments are limited to 7 months for units with a single deployment and 6 months for units with multiple deployments within the same FRP cycle. In addition, units must spend at least as much time between any two deployments as they did on their most recent deployment; and units must spend a minimum of 50 percent of the time in their home port over an FRP cycle. With regard to maintenance, the Navy has revised notional depot maintenance schedules to reflect the FRP cycle, and developed guidelines on out-of-depot continuous maintenance. With regard to training, the Navy revised surface, carrier, and air squadron training readiness instructions to reflect changes in training phases and to show the exercises that are expected to be completed in each phase.

In addition, the Navy established a 6+1 implementation goal for carrier strike groups, meaning that it aims to have six carrier strike groups available to deploy within 30 days and one more within 90 days.<sup>9</sup> In its August 2007 instruction, the Navy modified this goal to 3+3+1 and linked the goal to the FRP phases. As that instruction noted, 3+3+1 means that the Navy's goal is to have three carrier strike groups deployed, three ready to deploy within 30 days of being ordered to do so (in the FRP sustainment or integrated phases), and one prepared to deploy within 90 days (in the FRP basic phase). The Navy plans to use this same framework, which took the form X+Y+Z, to set implementation goals for all forces. The first variable (X) refers to the number of ships or aircraft deployed, the second (Y) refers to the number that will be in a surge status, and (Z) refers to the number that will be in a Ready for Tasking<sup>10</sup> status.

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<sup>8</sup>Office of the Chief of Naval Operations, OPNAV Instruction 3000.13C, *Personnel Tempo of Operations Program* (Jan. 16, 2007).

<sup>9</sup>Until 2006, the FRP implementation goal was 6+2 carrier strike groups.

<sup>10</sup>Ready for Tasking means that the unit has successfully completed the basic phase.

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Furthermore, the Navy has developed some performance measures to use in evaluating its performance under FRP. In its August 2007 instruction, the Navy established some performance measures for each FRP phase. For example, two principal measures will be used to assess performance in the maintenance phase: on-time completion of maintenance periods and assessment scores for the level of maintenance completed.<sup>11</sup> The instruction also delineates performance measures for training in FRP phases. The array of performance measures spelled out in the instruction broke new ground by reaching across the entire FRP cycle with measures that can be associated with a numeric goal and evaluated over time. For example, one measure of maintenance efficiency was “on-time completion of maintenance,” and the Navy associated the measure with a numeric goal of delivering ships within 30 days of the scheduled completion date. Lastly, the Navy’s aviation community has developed the Aviation Readiness Integrated Improvement Program training and readiness funding profiles. That program has developed a matrix that sets out expected readiness levels for aircraft squadrons, expressed in terms of the current readiness reporting system’s 5-point scale (with 1 being the highest and 5 the lowest), by squadron type and month of the FRP cycle. Available resources are allocated based on a tiered readiness profile, with the highest priority given to deployed units and units in pre-deployment sustainment. For example, an F-18 A/B/C/D squadron could expect 50 percent of required funding in the first month of its maintenance phase in order to achieve a training readiness level of 2.9, compared to 80 percent of required funding in the fifth month of sustainment phase (which corresponds to the first month of a typical deployment) in order to achieve a training readiness level of 1.9.

The Navy has also been working on other initiatives that include identifying and validating the cost of the fleet response training plans, calculating the notional training costs of a carrier strike group through the FRP phases, and developing metrics to link operations and maintenance costs for current and future years to FRP implementation goals.

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<sup>11</sup>The Fleet Forces Command’s and Pacific Fleet Command’s readiness divisions use a tool called the Maintenance Figure of Merit to measure ships’ readiness based on the material conditions of their systems, subsystems, components, and other facets.

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The Navy Has Not Developed Comprehensive Implementation Goals, Fully Developed Performance Measures, or Fully Identified Resources Required to Achieve FRP Goals

The Navy has not developed comprehensive implementation goals for all Navy assets, finished developing performance measures, or fully identified all the resources required to achieve FRP goals— which are all key elements of a sound management approach. Specifically, the Navy has not yet established a specific implementation goal for expeditionary strike groups and other forces that is analogous to the 3+3+1 goal for carrier strike groups. In addition, the Navy has not fully developed performance measures because it has not established required readiness levels that would enable it to measure whether the carrier strike groups can meet the 3+3+1 goal, and existing performance measures also lack some details about acceptable levels of performance and scope. Furthermore, the Navy has not shown that it has identified all resources required to achieve FRP goals or fully aligned needed resources with FRP activities.

The Navy Has Not Established Implementation Goals for Expeditionary Strike Groups or Other Forces

The Navy has not yet established implementation goals for expeditionary strike groups and other forces.<sup>12</sup> While the Navy began extending FRP to expeditionary strike groups in June 2007, it has not developed an implementation goal for expeditionary strike groups that would be analogous to the 3+3+1 goal for carrier strike groups because it has only recently begun to apply FRP to expeditionary strike groups. Marine Corps officials view FRP's goal of promoting increased readiness of amphibious ships as promising, so long as it does not have the effect of reducing the forward presence of the Marine Expeditionary Units that embark on those ships. The Navy has also applied the FRP concept to ship configurations that operate outside the umbrella of either type of strike group, for both missions related to the Global War on Terrorism and relief efforts, such as Hurricane Katrina.<sup>13</sup> However, the Navy has not established specific FRP implementation goals for these other forces, other than a general goal to have some forces deployed, some preparing for deployment, and some in the basic phase of FRP. Navy officials agree that specific FRP goals for these other forces are needed, and officials at Fleet Forces Command said that preliminary goals have been developed for submarines, surface ships, and other types of forces. However, these goals had not been finalized at the time of our review and are not yet being used to guide FRP

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<sup>12</sup>Examples of other forces could include units that are characterized as “Independent Unit Ready for Tasking” and may be assigned independent operations in support of homeland security, such as counter-narcotics missions, or assigned to provide disaster relief or humanitarian assistance. These units may consist of one or more ships.

<sup>13</sup>Department of the Navy, *Sea Power for a New Era: A Program Guide to the U.S. Navy*, 2006.



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## The Navy Has Not Fully Developed FRP Performance Measures

implementation. Moreover, the preliminary goal for surface ships was expressed in a single aggregated figure that included destroyers, cruisers, frigates, amphibious ships, and minesweepers. An aggregate figure may not provide a meaningful goal, though, as some ships, such as destroyers, may be used in a variety of roles: as components of carrier or expeditionary strike groups or as part of smaller task forces. Until the Navy develops implementation goals for all force configurations, it will not know whether it has enough ships to be distributed among all possible roles. Furthermore, without goals that establish how many expeditionary strike groups and other forces are needed to be ready to deploy, the Navy may not be able to determine whether it can provide all desired capabilities under FRP.

Although the Navy has developed some performance measures in its 2007 FRP instruction and linked these measures to the four FRP phases, its performance measures are not fully developed for two reasons. First, the Navy has not established required readiness levels in its current readiness system that would enable it to measure whether the carrier strike groups are ready to deploy in support of the 3+3+1 goal. The Navy currently reports unit readiness in terms of the Status of Resources and Training System (SORTS), but DOD plans to transition to a new system in 2009. SORTS uses a 5-point scale to assess units' ability to meet the full range of their wartime missions, including major combat operations. Overall SORTS scores, as well as individual scores in each of five subcategories,<sup>14</sup> are presented to the Chief of Naval Operations in weekly and monthly readiness briefings, and readiness is also reported to Congress quarterly, as required by law.<sup>15</sup> However, the Navy has not defined what overall readiness levels are required to move ships from one FRP phase to another. The Navy has established one phase-specific overall readiness measure. Units must reach an overall readiness level of C-2, which is the next-to-highest level, by the end of the integrated phase of FRP. The Navy has also specified that units must achieve a certain training readiness level by the end of the basic phase of FRP, but an overall readiness level has not been specified. Moreover, although units are supposed to be able to

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<sup>14</sup>The categories are personnel, equipment condition, supply, training, and ordnance. For each category, as well as for the overall level, units are assigned a score ranging from 1 to 5, with 1 being the highest.

<sup>15</sup>10 U.S.C. §482. Unit commanders also may report readiness using a measure called percent effectiveness, which allows them to render a subjective judgment about how prepared their units are to perform nontraditional missions that fall short of major combat operations.

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perform major combat operations while in the sustainment phase, the Navy has not established a readiness level that would enable it to measure when a unit was ready to transition from surge- to deployment-ready status. While some Navy officials have said that they believe that the requirement for deploying beyond the continental United States—regardless of mission or FRP phase—is C-2, they were unaware of any formal guidance to that effect.

The Navy relies on institutional knowledge and the commanders' judgment to make the determination of when a unit such as a carrier strike group is ready to deploy. Further, the Navy has not fully defined required readiness levels because Navy officials are reluctant to invest in developing measures based on SORTS, a legacy system that DOD will discontinue as it introduces the new Defense Readiness Reporting System by the middle of fiscal year 2009. Officials plan to continue to report readiness information to Congress using SORTS until the new system is fully in place. Under the new system, the Secretary of the Navy is charged with defining the mission-essential tasks that will be used to assess units' readiness for a range of potential missions. However, these tasks have not yet been fully defined. Without a clear requirement, senior leadership may not be able to determine whether implementation goals are being met, and might instead use imprecise proxy measures—such as the raw number of carriers that are not in depot maintenance—as a way of estimating how many carrier strike groups are available for deployment. Moreover, planners may not know what required readiness level to use as a standard when developing budget requests and making resource allocation decisions.

Second, the August 2007 FRP instruction outlined several performance measures for specific tasks, but some of these measures lacked details about acceptable levels of performance and scope. Navy guidance<sup>16</sup> directs that each complete standard for determining whether a task can be accomplished should consist of one or more measures as well as a criterion, or quantitative description of the acceptable level of performance, for each measure. For example, a measure might be “on-time maintenance,” and its associated criterion might be “within 30 days of promised completion date.” However, in some cases the measures described in the FRP instruction lacked criteria. For example, the

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<sup>16</sup>Office of the Chief of Naval Operations, OPNAV Instruction 3500.38B/MCO 3500.26/USCG Command Instruction 3500.1B, *Universal Naval Task List*, January 2007.

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instruction contained five measures of basic phase performance,<sup>17</sup> but none of these measures specified criteria about how well units must perform. Although information for one of the measures (the M-rating—required training readiness under the current readiness reporting system) could be inferred from Navy training manuals, the other four measures lacked quantitative descriptions. For example, the “cost performance” measure did not provide a quantitative description (e.g., percentage of budgeted funds expended) or a numeric goal (e.g., 95 percent).

The FRP instruction also did not fully address the scope of some of the performance measures. For example, the maintenance phase performance measure dealing with on-time maintenance completion did not indicate whether it was applicable to aircraft as well as ships; nor did four of the five basic phase performance measures. In addition, while FRP changes the manner in which the Navy maintains, trains, mans, and deploys its ships, the instruction outlines performance measures pertaining to maintenance, training, and deployment, but it did not contain performance measures pertaining to manning. Navy officials have said that they believe there is a goal of fully manning all ships and aircraft at all times. Although this goal has appeared in various Navy briefings, it is not documented in official Navy guidance. Navy officials observed that FRP is still an evolving construct, and stated that the Fleet Readiness Enterprise, which includes representatives from training and readiness directorates, is developing appropriate criteria that will delineate acceptable levels of performance. Moreover, a Navy official noted that work that will provide further details for the established performance measures is underway at lower levels of command. However, until the FRP performance measures are fully linked to quantified levels of acceptable performance, encompass ships and aircraft, as applicable, and provide measures to assess appropriate manning levels, decision makers may be unable to determine the extent to which FRP is achieving its goals.

**The Navy Has Not Fully Identified Resources Needed to Implement FRP**

The Navy also has not fully identified all resources required to achieve FRP goals or aligned needed resources with FRP activities. In the past, the Navy sponsored several studies to identify FRP costs, but these are of limited utility to the Navy’s understanding of links between resources and FRP activities because they included a goal that FRP would be cost-

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<sup>17</sup>The five performance measures for the basic phase are: entitled versus actual readiness, ready-for-tasking accomplishment, M-rating/Navy Mission Essential Task List, flying/steaming hour accomplishment, and cost performance.

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neutral, relied on assumptions that are now outdated, and lacked other details. The Navy's principal studies<sup>18</sup> consequently did not reflect a bottom-up assessment of the resources needed to implement FRP and achieve certain required readiness levels. Additionally, these studies used assumptions that are now outdated, such as a 12-carrier fleet, the former "6+2" carrier strike group implementation goal, and a 27-month carrier strike group operational cycle. These assumptions affect the proportion of time that carriers spend in maintenance over their life cycles and the urgency with which any single carrier might have to be readied to surge, either of which would have resource implications. In addition, the studies did not analyze the cost impact of relying more heavily on pier-side continuous maintenance rather than depot maintenance, deploying for more than 6 months at a time or more than once in the same operational cycle, or preparing for an actual surge. In case of a surge, for example, several ships might need to be readied within the same 30-day period, imposing additional costs on shipyards, and aircraft might need to be transferred from one airwing to another, raising transportation costs.

More recently, the Navy established several task forces and initiatives to help identify training requirements and costs, and to link costs to expected readiness levels. However, these efforts are ongoing and have not yet produced a comprehensive approach for aligning activities with resources. For example, the Navy has established at least two bodies, the Fleet Training Board of Directors and a Task Force on Readiness, whose work should help the Navy align its FRP activities with its resources and funding needs. The Fleet Training Board is tasked with establishing a process for calculating and tracking fleet training costs, which involves validating all costs associated with training as well as identifying excesses and gaps in the training process.<sup>19</sup> Although the Fleet Training Board has defined time frames for presenting briefings to senior Navy leadership, its charter was still in draft as of September 2007. The Navy's Task Force on Readiness,

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<sup>18</sup>See Center for Naval Analyses, *Explorations of the Fleet Response Plan: Definitions, Cost, Capabilities, Risks* (Alexandria, Virginia, November 2005); *Selected Costs of a Carrier Strike Group Across the Fleet Response Plan Phases* (Alexandria, Virginia, November 2005); *Budgeting for FRP Surge: The Ship Training Model* (Alexandria, Virginia: July 2006); *Budgeting for FRP Surge: The Airwing* (Alexandria, Virginia: July 2006); and Office of the Chief of Naval Operations, OPNAV N814, *Estimating Costs for Fleet Response Plan Postures* (Arlington, Virginia: Aug. 27, 2004).

<sup>19</sup>The board is using the Fleet Training Capability Cost System, which is an activity based costing and management system designed to trace fleet resource utilization and costs, to help identify notional training costs for a carrier strike group.

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whose charter was approved in April 2007, aims to develop a comprehensive set of metrics linked to cost in order to inform current-year execution of readiness objectives and future-year planning, programming, and budgeting of readiness requirements. This linkage will allow the Navy to identify the operations and maintenance funding needed to execute various FRP implementation goals, such as the carrier strike group's goal of 3+3+1, at specific readiness levels. However, the task force has not yet shown how the three variables—funding, implementation goals, and readiness levels—would interact and how a change in one variable would affect the outcomes for the other two. The task force on readiness has set a goal of having its results incorporated into the development of the fiscal year 2010 budget. However, it is not clear how the results of this task force will be disseminated or whether they will be used to develop formal guidance that could be used to develop future budgets. While the groups are taking steps in the right direction, without a thorough analysis of the costs of FRP that is based on updated information about force structure, goals, and operations and maintenance cycles and that links resource inputs to expected readiness outputs, the Navy may be unable to identify what resources would be needed to achieve the intended benefits under FRP and to develop its budget requests to reflect those needs.

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## The Navy Has Not Fully Considered Long-term Risks and Tradeoffs of Changes

The Navy has not fully considered the long-term risks and tradeoffs associated with the changes it has made in areas such as carrier operational and maintenance cycles and force structure. Specifically, the Navy has made several changes in its maintenance and operational cycles to facilitate FRP; however, the Navy has not performed an integrated assessment of how the changes would, taken as a whole, affect its ability to meet FRP goals and perform its full range of missions. Moreover, although the Navy has developed plans to show how it would continue to meet FRP goals during two upcoming periods when the number of available aircraft carriers temporarily drops from 11 to 10, these plans do not consider several issues.

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## The Navy Has Not Fully Assessed Changes in Carrier Maintenance and Operational Cycles

The Navy has made several changes to maintenance and operational cycles to facilitate FRP, but it has not fully assessed the implications of these changes. Specifically, the Navy has extended the intervals between carrier dry-dock maintenance periods from 6 years to 8 years and begun a test program that will extend some carrier dry-dock intervals to as much as 12 years, or only three times during their life cycles. It has also lengthened operational cycles for carriers and their airwings to 32 months. We have previously advocated that DOD adopt a comprehensive risk

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management approach to aid in its decision making that includes, among other things, assessing the risks of various courses of action for both near- and long-term challenges.<sup>20</sup>

Prior to making changes to its maintenance cycle in the past, the Navy has conducted assessments of the potential effects of the changes. For example, when the Navy altered its previous system for scheduling depot maintenance<sup>21</sup> about a decade ago, the engineering community conducted a formal study to determine which types of maintenance could be performed at greater intervals without having a negative impact on the integrity of the carrier or its expected total service life. A similar study was completed in 2005 and used as the basis for revising the notional depot maintenance schedule the following year to extend the dry-docking cycle from 6 to 8 years. At that time, officials concluded that the proposed extension was technically acceptable and contained a manageable level of risk. Since then, the Navy has again extended the dry-docking cycle, with a 12-year cycle planned for the *Nimitz* as a test case and possible further extensions for other carriers on a case by case basis. However, the *Nimitz*, which is the oldest ship in its class, has spent more time in depot maintenance during the first half of its service life than is planned for newer ships and therefore might be an atypical example of the class. Officials have stated that, while they will not conduct a comprehensive study of the entire class of ships, they are confident that their test study of the *Nimitz* will suffice to collect the data they need to inform their decision as to whether to extend the cycle for other ships.

The Navy has also extended the carrier operational cycle from the pre-FRP 27 months to 32 months. Operational cycles were extended to 32 months in tandem with the extension of carrier dry-docking cycles, and the technical studies that were performed at the time to determine the effect on carriers applied to both operational and maintenance cycles. However,

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<sup>20</sup>GAO, *Defense Management: Additional Actions Needed to Enhance DOD's Risk-Based Approach for Making Resource Decisions*, [GAO-06-13](#) (Washington, D.C: Nov. 15, 2005).

<sup>21</sup>The previous system, known as the Engineered Operating Cycle, provided for repairs to be made at fixed time intervals. The system that was introduced in 1994, known as the Incremental Maintenance Plan, provided for repairs to be made depending on their condition. Major carrier repairs and modernization are performed during depot maintenance periods, or availabilities. There are three major types of availabilities: planned depot periods, which last about 6 months; dry-docking, which lasts about 10 ½ months and which provides a unique opportunity to perform some types of hull and rudder maintenance; and refueling complex overhaul, which lasts for 3 years or more. During these availabilities, the carrier is unavailable to deploy.

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these studies did not examine the full impact on carriers' accompanying airwings, even though an effect of the extension of the operational cycle is a corresponding increase in the air squadron operational cycle. As a result of the extension of the operational cycle, which may now last as long as 32 months, a Navy official stated that one capstone pilot training exercise is conducted less frequently than in the past. Pilots participate in this exercise, at Naval Air Station Fallon, once per training cycle, normally shortly after they complete the basic phase. During the air squadron training cycle that existed prior to FRP, pilots participated once every 2 years; now they are only required to do so once per FRP cycle, which is every 27 to 32 months. While Navy officials have told us that they were unsure what effect less frequent Fallon exercises would have on pilot skills and are reviewing the extent to which Fallon exercises may need to be repeated during a multiple-deployment FRP cycle, they did not provide us with documentation of their review or evidence that they had studied the issue at the time the decision to extend the operational cycle was made.

The Navy has not fully considered the long-term risks and tradeoffs of these changes to its maintenance and operational cycles because it has not performed a comprehensive assessment of how the changes, interacting with one another, might affect its ability to meet FRP goals and perform its full range of missions. As a combined result of increases to both maintenance and operational cycles, carriers have fewer opportunities to be inspected in dry dock. In addition, they spend about 22 percent less time in any type of depot maintenance period compared to the pre-FRP 24-month cycle.<sup>22</sup> Since the oldest *Nimitz*-class carrier was commissioned about 32 years ago and the newest is still under construction, neither we nor the Navy can know, based on experience, all the effects that maintenance or operational cycle increases could have on the carriers. Two possibilities have arisen in discussions with Navy officials: extensions could have an impact on total service life, and extending dry docking cycles beyond 8 years or operational cycles beyond 32 months could limit the maintenance community's ability to respond to problems quickly. However, there was no consensus about the likelihood or possible severity of either of these outcomes.

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<sup>22</sup>If carriers are operated throughout their service lives under a 24-month operational cycle, they would spend 6 months in maintenance and then 18 months preparing to deploy (or deployed) in every 24-month period. Every third depot maintenance period would entail dry docking, so over the course of a 6-year cycle they would have two ordinary depot periods and one dry-docking period.

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Some evidence suggests that lengthening intervals between depot maintenance periods may be associated with a reduction in total carrier service life. For example, the 2006 guidance from the Chief of Naval Operations<sup>23</sup> on maintenance intervals projected that the service life for *Nimitz*-class nuclear carriers would be slightly reduced compared to past estimates. Moreover, FRP was developed to enable carriers to be deployed for more time than before and under conditions—such as short-notice surges with a premium on providing a quick response—that tend to use up reactor fuel in nuclear carriers more rapidly than would be the case with longer deployments with longer transit time at slower speeds. In *Nimitz*-class carriers, reactor fuel is replenished only once, at the midpoint of a carrier's life cycle, at about the 23-year mark. Therefore, if reactor fuel is used up in less than the scheduled time, the carrier may reach both the midpoint and end of its service life earlier than planned. In addition, the Navy's analysis leading to the operational cycle extension from 27 to 32 months assumed that operating tempo would not increase and carriers would not make multiple deployments in a single FRP cycle. If the Navy did have to replace carriers sooner than planned, there could potentially be significant effects on long-term Navy budget requirements. Without assessing the short- and long-term risks and trade-offs associated with the changes in maintenance and operational cycles, it will be difficult for the Navy to determine the extent to which these changes could affect its ability to meet FRP goals and perform its full range of missions.

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**The Navy Has Not Fully Analyzed Ability to Meet FRP Goals during Periods When Less than 11 Carriers Will Be Available**

The Navy has reported that FRP is supportable with 11 carriers and has developed plans to show how it would continue to meet FRP goals during two upcoming periods when the number of available<sup>24</sup> aircraft carriers temporarily drops from 11 to 10. However, these plans have not fully analyzed the risks that could arise because they may make optimistic assumptions about the length of the gaps and lack some details about how the Navy would mitigate these gaps. The first period is expected to begin in fall 2008, after the *Kitty Hawk*'s scheduled November 2008 decommissioning, and will last until the *Bush* is prepared for its first

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<sup>23</sup>Office of the Chief of Naval Operations, OPNAV Notice 4700, *Representative Intervals, Durations, Maintenance Cycles, and Repair Mandays for Depot Level Maintenance Availabilities of U.S. Navy Ships* (Washington, D.C.: Aug. 31, 2006).

<sup>24</sup>For purposes of this review, we considered a new-construction carrier to be available when it is ready to deploy. The carrier is ready to deploy after it has completed these steps: commissioning, completion of initial (shakedown) cruise and post-shakedown maintenance period, and initial unit-level training period.



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deployment in the summer of 2010, a gap of nearly 2 years. According to the Navy, the second period is scheduled to begin in fall 2012 when the *Enterprise* is decommissioned, and will last for 33 months until the *Ford* is commissioned in fiscal year 2015.

The Navy's plans may have presented optimistic assumptions about the total length of the gap. For example, the first plan projected that the *Bush* would be operationally ready in the summer of 2010, which is about a year after its scheduled commissioning date, but the second plan did not address the time between the *Ford*'s projected commissioning date and its operational readiness date. According to a December 2006 DOD report on the *Ford*'s progress,<sup>25</sup> the carrier is scheduled to reach initial operational capability in September 2016, for a total gap of 45 months, as opposed to the gap of 33 months in the Navy's report. In addition, we have recently reported that the *Ford* is encountering delays in technology development that could affect its delivery schedule.<sup>26</sup> In both cases, there may even be additional time between operational readiness and actual first deployment. The average interval between commissioning and deployment for all *Nimitz*-class carriers was nearly 2 years, and no carrier since the *Vinson* (which first deployed in 1983) has deployed within 1 year of its commissioning date.

Both of the Navy's plans lack some details about how the Navy would mitigate these gaps. The first plan reported that there would be 5 months between the scheduled decommissioning date of the *Kitty Hawk* and the projected operational readiness date of the *Bush* when carrier readiness status would fall below 6+1, and noted that these could be mitigated with adjustments to scheduled maintenance periods or by accelerating scheduled training. The first plan lacked specific information about the carriers and their projected FRP phases for each month of the gap period, so we could not validate the plan's assumptions about how many carriers would be surge-ready during any particular month. In addition, the plan did not link specific mitigations, such as extending a carrier's maintenance interval or accelerating unit-level training, to specific months in which surge-ready availability fell below 6+1. Without such information, we could not evaluate whether the Navy had weighed the possibilities and determined the most appropriate way of mitigating a potential shortfall.

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<sup>25</sup>DOD, *Selected Acquisition Report (SAR)*, CVN 21, December 31, 2006.

<sup>26</sup>See GAO, *Defense Acquisitions: Navy Faces Challenges Constructing the Aircraft Carrier Gerald R. Ford Within Budget*, [GAO-07-866](#) (Washington, D.C.: Aug. 23, 2007).

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Moreover, applying the expected durations of basic and integrated phases of FRP that the Navy formalized in the August 2007 FRP instruction, we identified at least 6 months in the first gap period after the *Kitty Hawk* retires when there will not be enough carriers in the right FRP phases to meet the 6+1 or 3+3+1 implementation goals, a difference that could affect the Navy's mitigation planning.

The second plan showed the baseline depot maintenance schedule, and presented several alternative ways in which identified gaps in the Navy's ability to deploy 6+1 carriers between the scheduled decommissioning date of the *Enterprise* and the projected commissioning date of the *Ford* could be filled. These included: extending the carrier depot maintenance cycle or operational schedules, deferring some global presence deployments, or delaying the decommissioning date of the *Kitty Hawk*. Applying the same expected durations of basic and integrated phases of FRP to the second gap period, we identified at least 13 months when there will not be enough carriers to meet the 6+1 or 3+3+1 implementation goals. The second plan did not address how the Navy could simultaneously have enough carriers available to surge to meet FRP goals without stretching out some maintenance intervals beyond currently approved limits. The Navy's decision to lengthen intervals between depot maintenance periods, as discussed, was based on the assumption that there would be 11 carriers at all times. Therefore, during these periods the Navy may have to choose among not meeting FRP carrier strike group goals, further extending carrier maintenance cycles, shortening training, or some combination of these tradeoffs.

Until the Navy develops plans that use realistic schedule assumptions and that can depict the likely challenges to implementation goals during these gap periods, senior Navy leadership may not have the information it needs to make informed trade-off decisions. As a result, the Navy may not be able to achieve an optimal balance between maximizing carrier strike groups' ability to surge on short notice in support of FRP and performing the full range of Navy missions.

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## Conclusions

The Navy considers FRP to be a critical enabler in meeting challenges of the twenty-first century security environment. Although the Navy has taken several important steps toward fully developing a sound management approach for FRP, such as establishing oversight and execution responsibility, developing implementation goals for carrier strike groups, and identifying some key performance measures, this process is incomplete. Without implementation goals for extending FRP to

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expeditionary strike groups and other ship configurations; performance measures that identify readiness levels and are fully linked to acceptable levels of performance for FRP phases; and a completed analysis that links needed resources to FRP phases, goals, and readiness levels, the Navy may not be able to develop budget requests based on the resources needed to achieve required readiness levels or demonstrate to senior DOD officials and Congress whether it can achieve the intended benefits under FRP.

The Navy has studied the effects of some aspects of changes it has made during FRP's first years, such as extensions of operational and maintenance cycles, and has begun to pursue other studies. However, until the Navy performs a comprehensive risk assessment that addresses the cumulative impact of changes to operational and maintenance cycles, and the possible effects of having fewer carriers in the force structure in the future, it will be unable to weigh the trade offs associated with meeting FRP goals within projected budgets. Further, assessing risk becomes increasingly important as the Navy expands FRP to include other forces and as its force structure faces periods with 10 instead of 11 available carriers.

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## Recommendations for Executive Action

To improve the Navy's management as FRP continues to evolve and as the Navy moves forward with implementation, we recommend that the Secretary of Defense direct the Secretary of the Navy to take the following four actions:

- establish implementation goals for the application of FRP to other forces;
- establish required overall readiness levels for each FRP phase in its readiness reporting system;
- develop additional performance measures that identify acceptable levels of performance and scope; and
- identify how resources should be linked to the FRP phases, goals, and readiness levels and publish appropriate guidance.

To improve the Navy's ability to weigh the trade offs associated with meeting FRP goals within current resource and force structure plans, we recommend that the Secretary of Defense direct the Secretary of the Navy to take the following action:

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- perform a risk assessment that integrates consideration of the effects of changes in carrier strike group operational and maintenance cycles under a range of force structure assumptions, and that identifies strategies to mitigate potential risks. Such a risk assessment should integrate plans to meet FRP goals during two upcoming periods when the number of available aircraft carriers temporarily drops from 11 to 10.

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## Agency Comments and our Evaluation

In written comments on a draft of this report, DOD fully agreed with one recommendation, and partially agreed with four recommendations. DOD's comments are reprinted in their entirety in appendix II.

DOD partially agreed with our recommendation that the Navy establish implementation goals for the application of the Fleet Response Plan to other forces. DOD stated that the Navy has developed preliminary goals for submarines, surface combatants, and other types of forces, and will continue to include additional Navy forces beyond those of the carrier strike group. While we laud this progress, we urge the Navy to take steps to finalize these goals as soon as possible. In addition, we reiterate that the preliminary goal for surface ships was expressed in a single aggregated figure that included destroyers, cruisers, frigates, amphibious ships, and minesweepers. As discussed in the report, an aggregate figure may not provide a meaningful goal, because some ships, such as destroyers, may be used in a variety of roles: as components of carrier or expeditionary strike groups or as part of smaller task forces. Without implementation goals for all force configurations, the Navy may not know whether it has enough ships to be distributed among all possible roles and provide all desired capabilities under FRP. Furthermore, since the Navy's system for aligning resource inputs with readiness outputs is linked to its implementation goals, identifying separate goals is a prerequisite to identifying appropriate levels of funding.

DOD partially agreed with our recommendation that the Navy develop required overall readiness levels for each Fleet Response Plan phase in its readiness reporting system. DOD stated that, under the Defense Readiness Reporting System, the Navy will be able to rapidly and accurately assess a unit's readiness and ability to conduct missions throughout the FRP continuum. While we hope that DOD can realize its expectations for this system, we note that it is not scheduled to be fully implemented for another year or more. Therefore, we urge DOD to direct the Navy to develop a readiness level requirement within existing systems so that it will have visibility over whether the Navy's goals are being met up until the

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Defense Readiness Reporting System is fully implemented, and ensure that this new system allows DOD to assess units' readiness for each FRP phase.

DOD partially agreed with our recommendation that the Navy develop additional performance measures that identify acceptable levels of performance and scope. DOD stated that the Fleet Readiness Enterprise is developing criteria that will show acceptable levels of performance. While we support DOD's efforts to develop criteria, we urge the Navy to take steps to finalize these criteria as soon as possible. DOD also stated that the Navy has Figures of Merit to guide the allocation of resources in specific areas, and furthermore trusts its unit commanders to accurately report their ability to meet FRP requirements. At the time of our review, these measures were still under development, so it is unclear whether they will be sufficient to provide the necessary information about the scope and acceptable levels of performance to enable consistent and accurate measurement of performance. We continue to believe that our recommendation merits further action and that DOD needs to direct the Navy to fully link the FRP performance measures to quantified levels of acceptable performance, encompass ships and aircraft as applicable, and provide measures to assess appropriate manning levels, so that decision makers will be able to determine the extent to which FRP is achieving its goals.

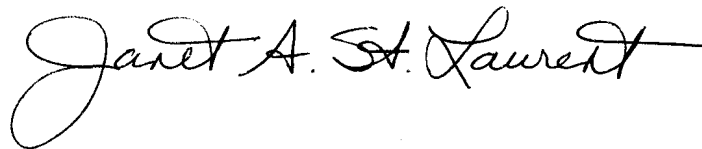
DOD agreed with our recommendation to identify how resources should be linked to the Fleet Response Plan phases, goals, and readiness levels and publish appropriate guidance. DOD stated that the Navy is in the process of developing a comprehensive set of top-level metrics that will provide the Navy with the ability to link readiness outputs to required resource inputs. When development is complete, the Navy will have a set of quantifiable and traceable relationships between its financial system and Fleet readiness. We agree that the actions cited represent positive steps and urge the Navy to press forward with these efforts. We note that we also recommended that the Navy publish appropriate guidance upon completion.

DOD partially agreed with our recommendation that the Navy perform a risk assessment that integrates consideration of the effects of changes in carrier strike group operational and maintenance cycles under a range of force structure assumptions and identify strategies to mitigate potential risks. DOD stated that it understands that modifications to existing plans will have numerous consequences and indicated that the Navy will continue to update its plans based on current risk assessments. DOD

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concluded that there was no need for further direction from the Secretary of Defense in this matter. We disagree, and continue to believe that the Navy should conduct an integrated risk assessment and identify strategies to mitigate potential risks. As discussed in the report, prior to making changes to its maintenance cycle in the past, the Navy has conducted assessments of the potential effects of the changes, and we emphasize the interrelated nature of the changes that the Navy has made to implement FRP. For example, as we discussed in our report, changing carrier operational cycles may have repercussions on the opportunities available for aircraft pilot training. In view of the possible impact on the Navy's ability to perform its full range of missions and the potential financial implications of intensifying operational tempo or decreasing maintenance of the Navy's carriers to the point where their planned service life could be jeopardized, we continue to believe that it is critical for the Navy to fully consider the long-term risks and trade offs of these changes through a comprehensive and integrated risk assessment.

We are sending copies of this report to the Secretary of Defense, the Secretary of the Navy, and the Chief of Naval Operations. We will also make copies available to other interested parties upon request. In addition, this report will be made available at no charge on the GAO Web site at [www.gao.gov](http://www.gao.gov). If you or your staff have any questions about this report, please contact me at (202) 512-4402 or [stlaurentj@gao.gov](mailto:stlaurentj@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Staff members who made key contributions to this report are listed in appendix IV.



Janet A. St. Laurent  
Managing Director  
Defense Capabilities and Management

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*List of Congressional Committees*

The Honorable Carl Levin  
Chairman  
The Honorable John McCain  
Ranking Member  
Committee on Armed Services  
United States Senate

The Honorable Daniel Inouye  
Chairman  
The Honorable Ted Stevens  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
United States Senate

The Honorable Ike Skelton  
Chairman  
The Honorable Duncan Hunter  
Ranking Member  
Committee on Armed Services  
House of Representatives

The Honorable John P. Murtha  
Chairman  
The Honorable C.W. Bill Young  
Ranking Member  
Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

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# Appendix I: Scope and Methodology

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To assess the Navy's progress in developing a sound management approach, we reviewed and analyzed guidance and instructions on manning, maintenance, and training; key studies, messages, and planning documents. We reviewed prior GAO products to identify best practices for managing and implementing major efforts and compared these best practices to the Navy documents we analyzed.<sup>1</sup> We also interviewed officials in the offices of the Chief of Naval Operations and Chairman of the Joint Chiefs of Staff, Washington, D.C.; Fleet Forces Command; Commander, Air Forces Atlantic; Commander, Surface Forces Atlantic; Commander, Submarine Forces Atlantic, Norfolk, Virginia; Naval Air Systems Command, Patuxent River, Maryland; Naval Sea Systems Command, Washington, D.C.; and Marine Corps Forces Command, Norfolk, Virginia; about initiatives the Navy has undertaken. We also contacted officials at the office of the Commander, U.S. Pacific Fleet; Commander, Naval Air Forces, San Diego, California; and Carrier Planning Activity, Chesapeake, Virginia.

We also analyzed data from the Navy's current readiness reporting system. Readiness data include ships' and airwings' scores under the Status of Resources and Training System, which measures inputs such as numbers of personnel, amount and condition of equipment on-board, and completion of training exercises, and combines them under a five-point rating system. Status of Resources and Training System data are limited in that they only measure readiness against the standard of major combat operations and do not specifically show readiness at each FRP phase. DOD has recognized this limitation and has begun to develop a new, capabilities-based system called the Defense Readiness Reporting System, which was designed to measure units' ability to perform specific tasks. The Navy has begun the transition to the Defense Readiness Reporting System, full implementation of which it believes will address the gaps in performance measures that we identified in our review. However, this transition was not yet complete at the time we conducted our review. The Navy continues to report Status of Resources and Training System data in the Type Commanders' Readiness Management System, and to use Status of Resources and Training System data as the foundation of its weekly and monthly readiness reports to the Chief of Naval Operations. With these

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<sup>1</sup>See GAO, *Military Readiness: Navy's Fleet Response Plan Would Benefit from a Comprehensive Management Approach and Rigorous Testing*, [GAO-06-84](#) (Washington, D.C.: Nov. 22, 2005) and *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, [GAO-03-669](#) (Washington, D.C.: July 2003).



noted limitations, we determined that the data were sufficiently reliable for our purposes.

To assess the extent to which the Navy has considered the long-term risks and trade offs of FRP-related changes, we interviewed Navy readiness officials in the offices of the Chief of Naval Operations, Arlington, Virginia; and program managers at Naval Sea Systems Command, Washington, D.C., and Chesapeake, Virginia; and Fleet Forces Command, Norfolk, Virginia. To assess whether the Navy had sufficiently taken into account the possibility of not having enough carriers available to meet either a 6+1 implementation goal or a 3+3+1 construct during the years in which 10 carriers will be available, we analyzed the quarterly long-range carrier maintenance schedule that was published in July 2007 and noted, based on the notional durations for each of the FRP phases that were published in the August 2007 FRP instruction, how many carriers would be in each phase during each month during fiscal years 2008 through 2010 and 2013 through 2016. For purposes of our analysis, we assumed that no carrier would remain in any FRP phase for longer than the planned time, and that the *George Washington*, which is scheduled to be at its home port in Japan in 2009, would be deployable at any time that it was not in depot maintenance. We also analyzed a Navy risk mitigation plan for the years following the decommissioning of the *Enterprise* and a less detailed plan that covered the years following the decommissioning of the *Kitty Hawk*, and discussed our observations with Navy readiness and carrier program officials.

We performed our work from November 2006 through October 2007 in accordance with generally accepted government auditing standards.

# Appendix II: Comments from the Department of Defense



PERSONNEL AND  
READINESS

OFFICE OF THE UNDER SECRETARY OF DEFENSE  
4000 DEFENSE PENTAGON  
WASHINGTON, D.C. 20301-4000

JAN 08 2008

Janet A. St. Laurent  
Director, Defense Capabilities and Management  
U.S. Government Accountability Office  
441 G Street, N.W.  
Washington, DC 20548

Dear Ms. St. Laurent:

This is the Department of Defense (DoD) response to the GAO draft report, GAO-08-264, "MILITARY READINESS: Navy is Making Progress in Implementing Its Fleet Response Plan, But Has Not Fully Developed Goals, Measures, and Resource Needs," dated December 5, 2007 (GAO Code 350930).

DoD appreciates the opportunity to comment on the draft report. DoD partially concurs with Recommendations 1, 2, 3, and 5 and concurs with Recommendation 4. Detailed comments on the GAO recommendations and report are enclosed.

Paul W. Mayberry  
Deputy Under Secretary of Defense  
(Readiness)

Enclosure:  
As Stated

GAO DRAFT REPORT – DATED DECEMBER 5, 2007  
GAO CODE 350930 /GAO-08-264

"MILITARY READINESS: Navy Is Making Progress in Implementing Its Fleet Response  
Plan, But Has Not Fully Developed Goals, Measures, and Resource Needs"

DEPARTMENT OF DEFENSE COMMENTS  
TO THE RECOMMENDATIONS

**RECOMMENDATION 1:** The GAO recommends that the Secretary of Defense direct the Secretary of the Navy to establish implementation goals for the application of the Fleet Response Plan to other forces.

**DOD RESPONSE:** Partially Concur. The Navy needs to have implementation goals, and as stated in the report, the Navy began to extend the Fleet Response Plan to Expeditionary Strike Groups in June 2007. The Navy is also developing Fleet Response Plan goals for Naval forces beyond the Carrier Strike Group. Although not finalized at the time of this draft review, officials at Fleet Forces Command have stated that preliminary goals have been developed for submarines, surface combatants, and other types of forces. The Department of the Navy shall continue to develop, apply and refine the Fleet Response Plan to include Navy forces beyond the Carrier Strike Group. No further direction from the Secretary of Defense is necessary at this time.

**RECOMMENDATION 2:** The GAO recommends that the Secretary of Defense direct the Secretary of the Navy to establish required overall readiness levels for each Fleet Response Plan phase in its readiness reporting system.

**DOD RESPONSE:** Partially Concur. As part of the Fleet Response Plan, units are required to perform various types of missions at increasing levels of complexity. Readiness to perform missions is based on the unit's ability to accomplish various mission essential tasks. The Defense Readiness Reporting System is being used to capture what capabilities and tasks units are able and ready to perform. Under the Defense Readiness Reporting System, the Navy will be able to rapidly and accurately assess a unit's readiness and therefore the unit's ability to conduct and complete missions assigned throughout the Fleet Response Plan continuum. The Defense Readiness Reporting System uses a mission assessment framework, so "readiness levels" are no longer appropriate or desirable.

**RECOMMENDATION 3:** The GAO recommends that the Secretary of Defense direct the Secretary of the Navy to develop additional performance measures that identify acceptable levels of performance and scope.

**DOD RESPONSE:** Partially Concur. As stated within the report, the Fleet Readiness Enterprise is currently developing appropriate criteria that will delineate acceptable levels of competency in the performance of mission essential tasks. In addition to these metrics, the Navy has Figures of Merit in resource areas such as Personnel, Equipment, Supply, Training and Ordnance. These Figures of Merit will allow the Navy to judiciously allocate limited resources

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where they are most needed. As noted in the report, the Navy relies heavily on its unit commanders to accurately report their units' ability to attain FRP timeline requirements and holds them fully accountable. In addition, the Navy entrusts those commands, whose responsibility it is to evaluate the performance of units as they finish various phases of training, to enforce high levels of competence for the forces that they evaluate. There is no need for further direction in this area from the Secretary of Defense.

**RECOMMENDATION 4:** The GAO recommends that the Secretary of Defense direct the Secretary of the Navy to identify how resources should be linked to the Fleet Response Plan phases, goals, and readiness levels and publish appropriate guidance.

**DOD RESPONSE:** Concur. Full implementation of the Fleet Response Plan will give the Navy a solid framework to associate resources to mission readiness in a way that is scalable and measurable. This will allow the full impact of financial decisions to be expressed in terms of capabilities. In order to have common metrics for describing the Fleet Response Plan for Navy units beyond Carrier Strike Groups, the Navy established an interdisciplinary team, Task Force Readiness, which is linked to the Fleet Readiness Enterprise Executive Committee. This Task Force is chartered to develop and implement a comprehensive set of top-level metrics based on the concept of Operational Availability. Development of these metrics continues; when completed, it will provide the ability to link readiness outputs to the required resource inputs. In this way, the Planning, Programming, Budgeting, and Execution (PPBE) process will be directly associated with a unit's overall readiness. The end state is a set of quantifiable and traceable relationships between the Navy's financial systems and Fleet readiness.

**RECOMMENDATION 5:** The GAO recommends that the Secretary of Defense direct the Secretary of the Navy to perform a risk assessment that integrates consideration of the effects of changes in carrier strike group operational and maintenance cycles under a range of force structure assumptions, and that identifies strategies to mitigate potential risks. Such a risk assessment should integrate plans to meet Fleet Response Plan goals during two upcoming periods when the number of available aircraft carriers temporarily drops from 11 to 10.

**DOD RESPONSE:** Partially Concur. For areas of significant technical or operational risk, the Navy does conduct risk assessments, even if not documented in a single formal treatise. As referenced many times throughout the report, 6+1 or 3+3+1 is a goal, and a non-fiscally constrained requirement for minimum risk in supporting operational contingencies. It is also an average, which implies the actual measure of surge ready forces is above and below the stated number at various times throughout any given year. If operational necessity dictates, the Navy has identified numerous ways to ensure asset availability. For example, most maintenance periods can be moved or modified. This, however, may result in a significant unprogrammed cost, along with longer-term shipyard capacity and Fleet Response Plan goal attainment challenges. The Navy realizes the dynamic environment within which it operates and understands that modifications to existing plans will have numerous consequences. The Fleet Response Plan remains an evolving construct, and the Navy shall continue to update their plans based on current risk assessments dependent upon operational needs, validated assumptions and the most current information available. There is no need for further direction from the Secretary of Defense in this matter.

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# Appendix III: U.S. Navy Aircraft Carriers

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Name	Year commissioned	Home port
<i>Kitty Hawk</i>	1961	Japan
<i>Enterprise</i>	1961	Norfolk, Virginia
<i>Nimitz</i>	1975	San Diego, California
<i>Dwight D. Eisenhower</i>	1977	Norfolk
<i>Carl Vinson</i>	1982	Bremerton, Washington
<i>Theodore Roosevelt</i>	1986	Norfolk
<i>Abraham Lincoln</i>	1989	Everett, Washington
<i>George Washington</i>	1992	Norfolk
<i>John C. Stennis</i>	1995	Bremerton
<i>Harry S. Truman</i>	1998	Norfolk
<i>Ronald Reagan</i>	2003	San Diego
<i>George H.W. Bush</i>	Under construction	
<i>Gerald Ford</i>	Under construction	

Source: The Navy.

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# Appendix IV: GAO Contact and Staff Acknowledgments

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## GAO Contact

Janet St. Laurent (202) 512-4402 or [stlaurentj@gao.gov](mailto:stlaurentj@gao.gov)

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## Acknowledgments

In addition to the contact named above, Patricia W. Lentini, Assistant Director; Renee S. Brown; Janine Cantin; Alissa Czyz; Karen Nicole Harms; Matthew S. Lee; Sally Newman; Maria-Alaina Rambus; Rebecca Shea; and Nicole Volchko made key contributions to this report.

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